

at least one of said illumination system and projection system having an optical element with a surface on which radiation is incident and a capping layer covering said surface, said capping layer being formed of a relatively inert material, wherein said relatively inert material is selected from the group consisting of: diamond-like carbon, Ru, Rh, B, TiN, MgF₂, LiF, C₂F₄ and compounds and alloys thereof.

15. (Three Times Amended) A device manufacturing method using a lithographic apparatus, the method comprising:
providing a mask containing a pattern to a first object table;
providing a substrate at least partially covered by a layer of energy-sensitive material to a second object table; and
irradiating said mask and imaging irradiated portions of said pattern onto said substrate;
said irradiating comprising directing radiation onto a surface of an optical element, the surface having a capping layer formed of a relatively inert material, wherein said relatively inert material is selected from the group consisting of: diamond-like carbon, Ru, Rh, B, TiN, MgF₂, LiF, C₂F₄ and compounds and alloys thereof.

21. (Amended) The lithographic projection apparatus according to claim 20, wherein said relatively inert material is selected from the group consisting of: diamond-like carbon (C), boron-nitride (BN), boron carbide (B₄C), silicon nitride (Si₃N₄), silicon carbide (SiC), B, Pd, Ru, Rh, Au, MgF₂, LiF, C₂F₄, TiN and compounds and alloys thereof.

39. (Amended) The lithographic projection apparatus according to claim 30, wherein said relatively inert material is selected from the group consisting of: diamond-like carbon (C), boron-nitride (BN), boron carbide (B₄C), silicon nitride (Si₃N₄), silicon carbide (SiC), B, Pd, Ru, Rh, Au, MgF₂, LiF, C₂F₄, TiN and compounds and alloys thereof.

43. (Amended) The lithographic projection apparatus according to claim 42, wherein said first material is one or more materials selected from the group consisting of Mo, Ru, Rh, Nb, Pd, Y and Zr, as well as compounds and alloys of these elements;

C₅ said second material is one or more materials selected from the group consisting of Be, Si, Sr, Rb, RbCl and P, as well as compounds and alloys thereof;

Cond. said third material is selected from the group consisting of B₄C, BN, diamond-like carbon (C), Si₃N₄ and SiC; and

said fourth material is selected from the group consisting of Au, Ru, Rh, Pd, B, MgF₂, LiF, C₂F₄, TiN, boron nitride (BN), boron carbide (B₄C₉), silicon nitride (Si₃N₄), Silicon carbide (SiC), diamond-like carbon (C), and compounds and alloys thereof.

See the attached Appendix for the changes made to effect the above-amended claims.